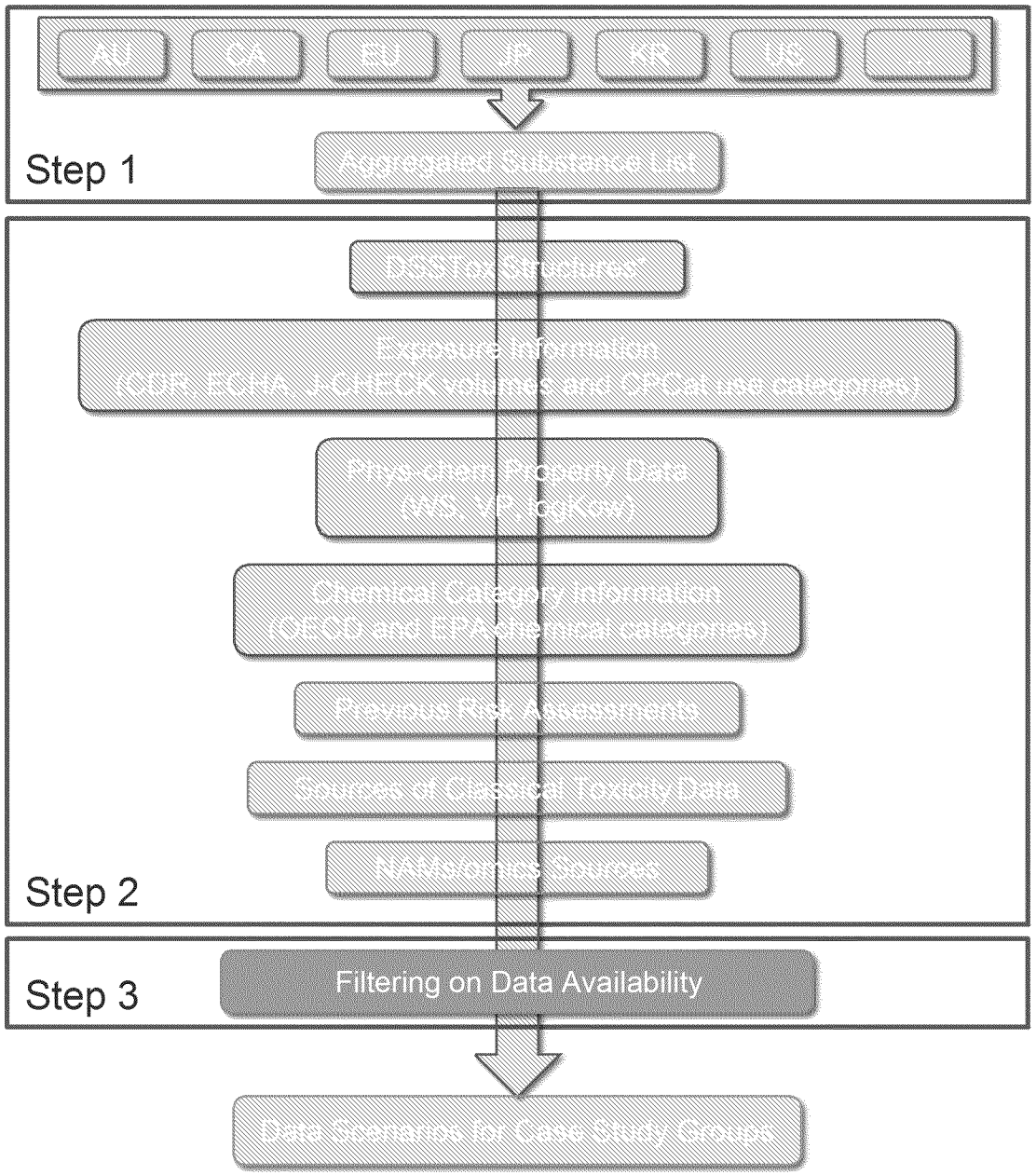
EPA Accelerating RA Workshop: Master chemical list selection

Health Canada

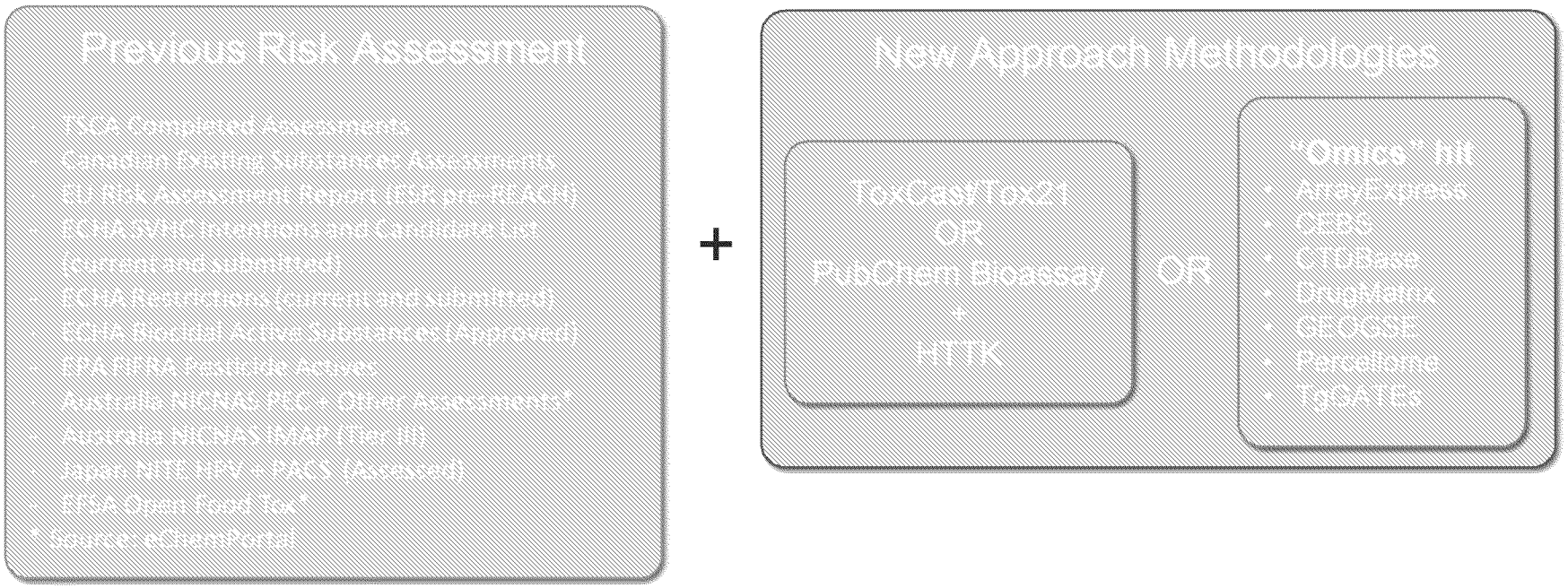
2016 08 26

Workflow



*Substances without defined chemical structures in DSSTox where filtered out at this step

Scenario 1 – Data-Rich Retrospective: Risk Assessment and NAMs

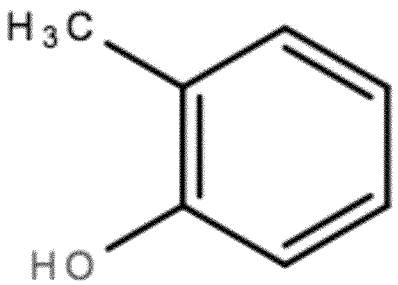


Possible Case Studies:

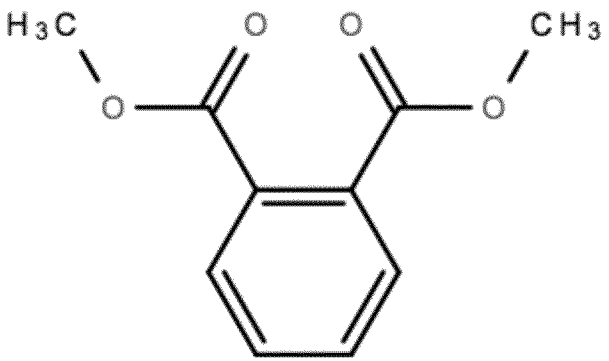
- Investigate where new approach methodologies can support existing risk decisions in order to gain confidence in NAM application
- Compare risk metrics from traditional risk assessments with risk metrics based on new approach methodologies (keeping in mind "fit for purpose")

Scenario	# Subs
1	979
1a (ToxCast/Tox21 or PubChem with HTTK)	203

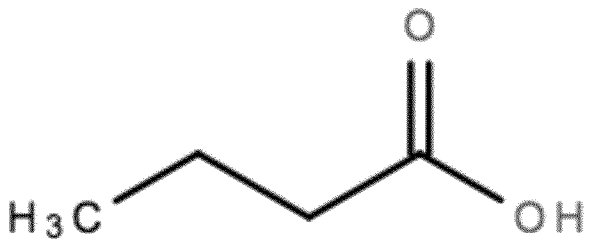
Scenario 1 – Example chemical categories



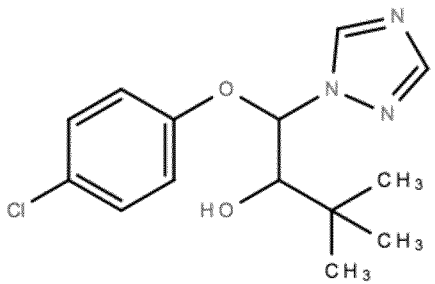
alkyl phenols (18)
Pro: NITE, Japan MOE, HC
Retro: EPA, ECHA, EFSA



phthalates (11)
Pro: EPA TSCA, Japan MOE
Retro: ECHA, HC, NICNAS, EFSA



N-alkyl carboxylic acids (13)
Pro: NITE, HC, INERIS, Japan MOE
Retro: EFSA, EPA, ECHA



triazoles (10)
Pro: EFSA, Japan MOE
Retro: ECHA

Scenario 2 – Retrospective: Classical Hazard + NAMs

No Previous Risk Assessment

Classical Hazard Data Available

- ECHA REACH Dossiers
- ECHA CLH (submitted and current)
- OECD SIDS*
- SIDS UNEP*
- OECD Toolbox Datasets
- ToxRefDB
- EPA HPVIS*
- EPA HHBP (pesticides)*
- EPA OPPAEB (pesticides)*
- EPA IRIS
- EPA PPRTV
- EPA EDSP Data Collection (e.g., Hershberger, uterotrophic, pubertal, other)
- Endocrine Toxicity Database*
- HTSUS
- Japan GHS J*
- New Zealand HSNO (GHS)*
- IPCS INCHEM*

* Source: eChemPortal

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New Approach Methodologies

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Exposure Potential

CPCat
Exclude substances with only Industrial or Warfare use

\+

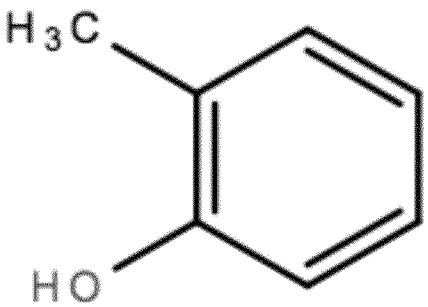
Volume
≥ 1000 kg / year (CDR, ECHA, or J-CHECK)

Possible Case Studies:

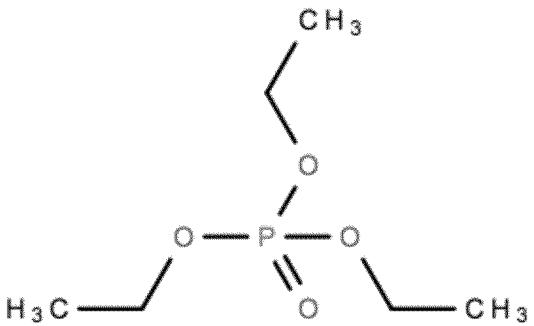
- Integrate NAMs and traditional data into IATA based assessment
- Investigate how NAMs and traditional data contrast and complement each other for prioritization

Scenario	# Subs
2	326
2a (Tox21 or PubChem with HTTK)	27

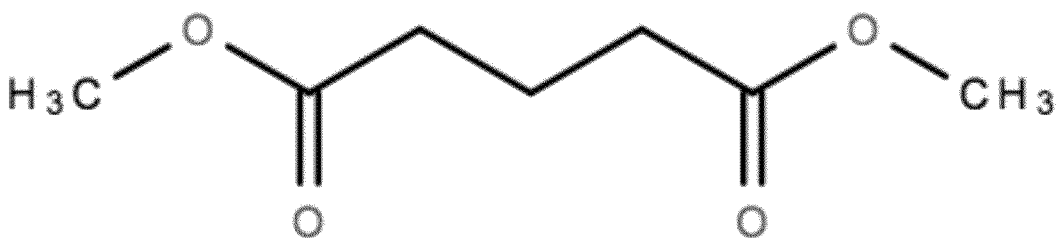
Scenario 2 – Example chemical categories



alkyl phenols (4)
Pro: HC, INERIS
Pro/Retro: ECHA dossiers



alkyl phosphates (4)
Pro: INERIS, HC
Pro/Retro: ECHA dossiers



dicarboxylates (6)
Pro: HC
Pro/Retro: ECHA dossiers

Scenario 3 – Prospective: Classical Hazard + No NAMs

No Previous Risk Assessment

Classical Hazard Data Available

+

No New Approach Methodologies

+

Exposure Potential

Possible Case Studies:

- Prioritize NAM testing to help address data gaps?

Note: No determination on the amount of data /quality for these chemicals has been made yet

Scenario	# Substances
3	430

Scenario 4 – Prospective:

No Classical Hazard and No NAMs but Potential for Exposure

No Previous Risk Assessment

No Classical Hazard Data Available

+

No New Approach Methodologies

+

Exposure Potential

Possible Case Studies:

- Identify candidates for NAM testing
- Prioritization or assessment based on QSAR/read-across?

Scenario	# Substances
4	14